

Managing Footdrop in MS with a Dorsiflex Sock. A patient centred and sustainable approach.

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Background

Rigid AFOs and off the shelf foot drop splints have been the typical orthotic intervention for patients with MS foot drop for years. These focus on either 3 point pressure systems or tension in cords to pull up the foot. These braces don't always provide the expected outcomes that patients are hoping for and the devices can end up discarded in a cupboard. Patients with MS are generally offered an assessment, a fitting and a review appointment. If their original device is deemed unsuitable at the review, then an alternative is normally offered. During subsequent appointments, efficacy is reviewed and further alternatives trialled when issues are reported with either rigidity, bulk or discomfort.

Aim

This case study highlights a patient with MS who had been struggling with foot drop for many years and had tried a number of rigid braces and off the shelf devices, all of which had either felt too hard, rigid or not effective enough. All of which had been put aside in the cupboard.

Method

A single case study highlighting the effects of MS on movement, but focusing on the patient centred approach to provide effective and sustainable treatment.



Typical 'furniture' walk, partly due to lack in proprioception.

Results. Gait analysis.

Pictures below demonstrate swing phase without a dorsiflex sock and with. Note the improvement wearing the sock, in ground clearance, increased stride length and heel strike. Pictures demonstrate 'barefoot' in the home and with shoes on outdoors.



When ascending a step, note that the sole of the shoe is visible due to the difficulty in effectively lifting the foot up and the notable forefoot contact and externally rotated foot placement. The upper body is rotated to lead into the movement.



With the sock on, there is much greater control to lift the foot and place it in a more forward progression. The body is better aligned.

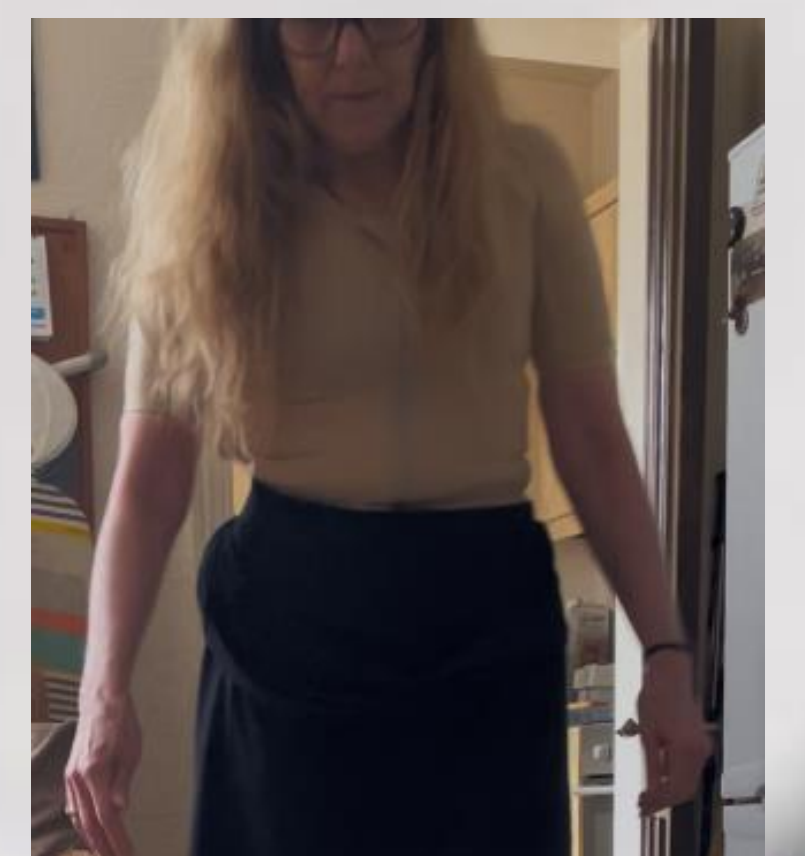
Overall there was an increase in confidence, elevation of head position; eyes forward, relaxing of arm posture and increased speed of walking.

'It's like a new lease of life, it makes me walk steadier, and I don't have to furniture walk all of the time'

Conclusion

The use of DEFOs to help manage deficits in movement in patients with MS can be hugely beneficial. They can dramatically increase the sensory input to the body segment being treated and increase the sense of proprioception. This can enhance the effectiveness of overall coordination. This patient was able to demonstrate active control of muscle groups in her lower limbs, but had a very poor coordination and timing during the gait cycle. She found the sock gave her the ability to feel like she could control her leg. During assessment, she appeared to have a positive response to wearing a DMO vest on her overall coordination and proprioception of body/upper limbs. However, this was not her priority and she didn't wish to pursue this approach.

Taking a patient led approach to Orthotic intervention not only respects the wishes of the individual, but it reduces the potential for medical device waste. After a couple of years, at a review, the patient's trunk posture had begun to decline. She enquired about how to control her poor upper limb coordination. She was loaned a vest and shorts. Immediately her posture straightened, her upper limb coordination improved, to which she stated: "The shorts give me relief from the hip pain I've been suffering from" and "They're amazing, much better than paracetamol".



Patient has now been using the dorsiflex sock for 2 years.

Sustainable approach.

Daily compliance.

Confidence improved.

Increased cadence.

Actual patient centred approach.

More energy efficient gain = less fatigue.

Minimal bulk

Economical.

Worn barefoot or in shoes.

Cosmesis improved.